Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. Cancelled

2. (Currently Amended) ~~A method for sending a notice of failure detection according to claim 1, wherein:~~ A method for sending a notice of failure detection in a system connecting first and second network interfaces incorporated in first and second apparatuses by a line including a transmission side transfer path and a reception side transfer path, said system performing data communication between said first and second apparatuses via said line, wherein:

said first and second network interfaces periodically transmit a utilizability signal representing normality of said line or an own apparatus to said transmission side transfer path;

said first apparatus judges an occurrence of a failure when it cannot detect said utilizability signal from said second network interface of said second apparatus as a mating apparatus for a predetermined period from said reception side transfer path;

said first network interface of said first apparatus stops transmitting said utilizabiltiy signal to be transmitted to said network interface of said second

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apparatus, and thereby reports the occurrence of the failure to said second apparatus;

when ~~staid~~ said first network interface of said first apparatus stops transmitting said utilizability signal,

said first apparatus starts transmitting periodically said utilizability signal to said reception side transfer path ~~after the passage~~ after passage of a predetermined period, and monitors thereafter whether or not said utilizability signal can be detected on said reception ~~side transfer path,~~ side transfer path;

said first apparatus judges that the failure is not yet restored when said first apparatus cannot detect said utilizability signal for the predetermined period on said reception side transfer path, and stops again transmitting said utilizability signal that has been transmitted periodically to said transmission side transfer path; and

when said first apparatus can detect continuously said utilizability signal on said reception side transfer path for a predetermined period, on the other hand, said first apparatus judges that the failure is restored, continues thereafter to transmit periodically said utilizability signal, and starts again the data communication.

3.   (Currently Amended) ~~A method for sending a notice of failure detection according to claim 1, wherein:~~ A method for sending a notice of failure detection in a system connecting first and second network interfaces incorporated in first and second apparatuses by a line including a transmission side transfer path and a reception side transfer path, said system performing data communication between said first and second apparatuses via said line, wherein:

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said first and second network interfaces periodically transmit a utilizability signal representing normality of said line or an own apparatus to said transmission side transfer path;

said first apparatus judges an occurrence of a failure when it cannot detect said utilizability signal from said second network interface of said second apparatus as a mating apparatus for a predetermined period from said reception side transfer path;

said first network interface of said first apparatus stops transmitting said utilizabiltiy signal to be transmitted to said network interface of said second apparatus, and thereby reports the occurrence of the failure to said second apparatus;

at least one of said first and second apparatuses includes a plurality of network interfaces as a group, and stops transmitting said utilizability signal from all of said network interfaces inside said groupinside said group, when the failure occurs in one of said network interfaces inside said group or in said reception side transfer path connected to said network interface, and said utilizability signal cannot be detected from said reception side transfer path.

4.   (Original) A method for sending a notice of failure detection according to claim 2, wherein:

at least one of said first and second apparatuses includes a plurality of network interfaces as a group, and stops transmitting said utilizability signal from all of said network interfaces inside said group when the failure occurs in one of said

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network interfaces or in said reception side transfer line connected to said network interface, and said utilizability signal cannot be detected from said reception side transfer path.

5. (Currently Amended) <u>A method for sending a notice of failure detection in a system connecting first and second network interfaces incorporated in first and second apparatuses by a line including a transmission side transfer path and a reception side transfer path, said system performing data communication between said first and second apparatuses via said line, wherein:</u>

<u>said first and second network interfaces periodically transmit a utilizability signal representing normality of said line or an own apparatus to said transmission side transfer path;</u> ~~A method for sending a notice of failure detection according to claim 1, wherein:~~

when said first apparatus cannot receive said utilizability signal of said transfer path on said reception side transfer path for receiving data from said network interfaces of said second apparatus for the predetermined time and judges that the failure occurs, said first apparatus intentionally stops transmitting said utilizability signal that has been transmitted periodically to said transfer path for transmitting the data to said interfaces of said second apparatus;

said first apparatus starts transmitting periodically said utilizability signal to said transmission side transfer path after the passage of the predetermined time, and thereafter monitors whether or not said utilizability signal can be detected on said reception side transfer path

when said utilizability signal cannot be detected on said reception side transfer path for the predetermined time, said first apparatus judges that the failure is not restored, stops again intentionally transmitting said utilizability signal that has been transmitted periodically to said transmission side transfer path, starts again transmitting periodically said utilizability signal to said transmission side transfer path after the passage of the predetermined time, and repeats the monitor processing of said reception side transfer path until said utilizability signal can be detected on said reception side transfer path; and

when said utilizability signal can be detected continuously on said reception side transfer path for the predetermined time, said first apparatus judges that the failure is restored, keeps thereafter periodical transmission of said utilizability signal, and starts again the data communication.

6.   (Currently Amended) A method for sending a notice of failure detection according to ~~claim 1~~claim 2, wherein the data communication is stopped simultaneously with the stop of transmission of said utilizability signal of said transfer path.

7.   (Original) A method for sending a notice of failure detection according to claim 2, wherein the data communication is started again simultaneously with restart of transmission of said utilizability signal of said transfer path.

8.   Cancelled

9.   Cancelled

10.   (Original) A network apparatus in a network system having one or more network interfaces incorporated in two apparatuses and connected by a line including a transmission side transfer path and a reception side transfer path electrically isolated from one another, wherein:

said network interfaces are classified into groups, at least one of said network interfaces belongs to each of said groups, and a network interface is allowed to belong to a plurality of said groups; and

each of said network interfaces includes means for stopping transmission of a utilizability signal to be transmitted to said transmission side transfer path when a failure is judged as occurring in said reception side transfer path, and means for stopping transmission of said utilizability signal to said transmission transfer path in all of said network interfaces belonging to the same group as said network interface when the failure is detected in at least one network interface belonging to a group associated with its own network interface.

11.   (Original) A network apparatus according to claim 10, wherein each of said network interfaces includes means for continuing transmission of said utilizability signal to said transmission side transfer path and starting again simultaneously data communication when the failure of said reception side transfer path is judged as being restored, and means for starting transmission of said

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utilizability signal to said transmission side transfer line in all of said network interfaces belonging to the same group as said interface when failure restoration is detected after the passage of a predetermined time from the failure detection.

12.   (Original) A network system having redundant routes of a plurality of systems constituted by using said network apparatus according to claim 10, for cutting of f reliably and at a high speed a failure occurrence portion and assisting switching of said redundant routes at the time of occurrence of the failure by setting groups in accordance with a switching unit at the time of the occurrence of the failure.

13.   (New) A method for sending a notice of failure detection in an inter-network apparatus connected to at least one other inter-network apparatus by a line including a transmission side transfer path and a reception side transfer path, said inter-network apparatus performing communications of data with said other inter-network apparatus via said line, comprising the steps of:

transmitting periodically a signal different from data to said transmission side transfer path;

monitoring whether or not a signal different from data is received from said reception side transfer path, said signal to be monitored being periodically received from said other inter-network apparatus;

judging that a failure occurs in said other inter-network apparatus or on said reception side transfer path, when detecting that said signal to be monitored is not received from said reception side transfer path; and

thereafter stopping transmitting said signal to be transmitted periodically to said transmission side transfer path.

14.   (New) A method for sending a notice of failure detection according to claim 13, wherein, in said step of transmitting said signal different from data, a control signal is transmitted during a period other than a data communication period.

15.   (New) A method for sending a notice of failure detection according to claim 13, wherein, in said step of transmitting said signal different from data, a signal representing that an own inter-network apparatus operates normally is transmitted.

16.   (New) A method for sending a notice of failure detection in an inter-network apparatus connected to at least one other inter-network apparatus by a cable including a first transfer path for transmitting data to said other inter-network apparatus and a second transfer path for receiving data from said other inter-network apparatus, said inter-network apparatus performing communications of data with said other inter-network apparatus via said first and second transfer paths, comprising the steps of:

transmitting periodically or continuously a link-up signal to said other inter-network apparatus via said cable;

confirming periodically whether or not a link-up signal is received from said cable, said link-up signal to be confirmed being periodically received from said other inter-network apparatus;

judging that a failure occurs in said other inter-network apparatus or on said second transfer path of said cable, when detecting that the link-up signal to be confirmed is not received from said cable; and

thereafter stopping transmitting said link-up signal to be transmitted periodically to said other inter-link apparatus, to thereby cause said other inter-link apparatus to detect the occurrence of the failure.

17. (New) A method for sending a notice of failure detection according to claim 16, wherein, in said step of transmitting said link-up signal, said link-up signal is transmitted during a period other than a data communication period.

18. (New) A method for sending a notice of failure detection according to claim 16, wherein, in said step of stopping transmitting said link-up signal, transmission of said link-up signal and data is stopped.